

AMENDMENTS TO THE SPECIFICATION

1. Please replace paragraph 0001 of the specification with the following amended version of paragraph 0001:

J.D.
01/31/06
[0001] This application is a continuation-in-part of U.S. Patent Application Serial No. 10/625,022, filed July 23, 2003, ^{now U.S. Patent No. 6,867,368,} entitled "Multi-Layer Ceramic Feedthrough Structure in a Transmitter Optical Subassembly", which claims the benefit of U.S. Provisional Patent Application Serial No. 60/477,868, filed June 12, 2003. This application is also a continuation-in-part of U.S. Patent Application Serial No. 10/231,395, filed August 29, 2002, ^{now U.S. Patent No. 6,703,561,} which is a continuation-in-part of U.S. Patent Application Serial No. 10/077,067, filed February 14, 2002, now U.S. Patent No. 6,586,678, entitled "Ceramic Header Assembly." ~~This application also claims the benefit of U.S. Provisional Patent Application Serial No. 60/477,865, filed June 13, 2003.~~ The foregoing patent applications and patents are incorporated herein by reference.

[0043] Figure 4C is a cross-section view illustrating various aspects of the exemplary embodiment presented in Figures 4A and 4B;

[0044] Figure 4D is a cross-section view taken along line 4D-4D of Figure 4C and illustrates various aspects of an exemplary arrangement of a TEC in a header assembly;

[0045] Figure 4E is a side view illustrating aspects of an exemplary electrical connection scheme for the header assembly and a printed circuit board;

[0046] Figure 4F illustrates various aspects of an alternative platform/TEC configuration where the TEC is located outside the hermetic chamber; and

[0047] Figure 5 is a perspective view of an exemplary transmitter optical subassembly with a transistor header assembly and an EML as well as optics, such as a lens, isolator, and a receptacle for an optical cable such as an LC cable.

[0048] Figure 6 is a perspective view of a small form factor XFP optical transceiver module having an EML.

Figure 7 is a perspective view of yet an embodiment of an optical transceiver module having an EML.

J.D.
01/31/06

WORKMAN NYDEGGER
A PROFESSIONAL CORPORATION
ATTORNEYS AT LAW
1000 EAGLE GATE TOWER
60 EAST SOUTH TEMPLE
SALT LAKE CITY, UTAH 84111

[00122] A receptacle 2110 is optically coupled to the isolator 2106. The receptacle is adapted to couple to other fiber-optic device in a pluggable manner. In one embodiment of the invention, the receptacle complies with the XFP standard receptacle size for implementation in an XFP system, which is an LC fiber-optic cable receptacle. Other common receptacles are the SC and FC connectors.

[00123] Further disposed in the transistor header 2102 as described elsewhere above, is a TEC cooler 2112. Also as noted above, the TEC cooler may be removed or replaced with other types of circuits when the subassembly design allows for less cooling, or when there is no need for active wavelength stabilization in, for example, CWDM systems or systems that do not use wavelength division multiplexing.

[00124] Figure 6 illustrates an embodiment of the invention in which an EML is incorporated into a pluggable transceiver module 2200. The optical transceiver of Figure 6 conforms to the XFP standard. The transceiver module 2200 incorporates a transmitter optical subassembly 2100 as described in Figure 6. Additionally, the transceiver module 2200 comprises a receiver subassembly 2202 for receiving optical signals. In one preferred embodiment of the invention, the receiver subassembly 2202 comprises an avalanche photodiode for receiving optical signals. Both the transmitter optical subassembly 2100 and the receiver subassembly 2202 are disposed in a transceiver module casing 2204 so as to be pluggable into interfaces of the same standard. For example, the receptacles 2110 and 2206 are arranged such that their spacing and size are appropriately configured to mate with other XFP components.

[00125] The receiver subassembly 2202 and transmitter optical subassembly 2100 are electrically coupled to a module circuit board 2208. The transmitter optical subassembly 2100 and receiver subassembly 2202 may be coupled to the module circuit board 2208 in one